

REMARKS

Applicants respectfully request entry of the foregoing and reconsideration of the subject matter identified in caption, as amended, pursuant to and consistent with 37 C.F.R. §1.112, and in light of the remarks which follow.

Claims 1-7 and 9-24 are pending in the application.

By the above amendments, Applicants amended Claims 17 and 18 to correct a minor typographical error. Because these amendments do not narrow the scope of these claims, the claims should be accorded their full range of equivalents.

Applicants thank the Examiner for acknowledging Applicants' Claim for Priority under 35 U.S.C. § 119 based on PCT/FR 00/01912, filed July 4, 2000, and FR 99/08647, filed July 5, 1999. Applicants also thank the Examiner for entry and consideration of Applicants' Request for Continued Examination and accompanying submission filed on February 28, 2005, and for the withdrawal of the previously-pending rejections under 35 U.S.C. §§ 102 and 103.

Turning now to the Official Action, Claims 1-7 and 9-24 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. For at least the reasons that follow, withdraw of the rejection is in order.

First, the Official Action asserts that the claims recite a dehydrofluorination process which is indefinite because it lacks steps for performing the dehydrofluorination process. Applicants respectfully disagree.

Independent Claims 1, 17, 18, 19 and 22 all recite active method steps. For example, the process of Claim 1 comprises "gradually introducing carbamoyl fluoride in a dissolved or finely dispersed state in a solvent into a solvent heel at a temperature of at least 80°C." Because each independent claim recites one or more

positive method steps, Applicants submit that the claims satisfy the requirements of § 112.

The Official Action also asserts that the claims are indefinite because they recite introducing carbamoyl fluoride into a solvent heel. Upon consideration of the Official Action's rejection and the language of Claim 1 in view of the supporting specification, Applicants do not understand why this step is considered to be unclear.

In particular, Applicants believe that Claims 1-7 and 9-24 particularly point out and distinctly claim the subject matter Applicants regard as exemplary of the invention. Because the scope of subject matter embraced by the claims is clear and Applicants have not otherwise indicated that they intend the claims to be of different scope, the claims particularly point out and distinctly claim the subject matter which Applicants regard as exemplary of their invention. (See *In re Borkowski*, 422 F.2d 904, 164 USPQ 642 (CCPA 1970).) The Federal Circuit has indicated in a number of §112, second paragraph, cases, that indefiniteness of claim language must be analyzed, not in a vacuum, but in light of (1) the content of the particular application disclosure, (2) the teachings of the prior art, and (3) the claim interpretation that would be given by one possessing the ordinary level of skill in the pertinent art at the time the invention was made. (See, for example, *In re Marosi*, 710 F.2d 799, 218 USPQ 289 (Fed. Cir. 1983).) The purpose of claims is not to explain the technology or how it works, but to state the legal boundaries of the patent grant. The claim is not "indefinite" simply because it is hard to understand when viewed without the benefit of the specification. (See *S3 Inc. v. nVidia Corp.*, 259 F.3d 1364, 59 USPQ2d 1745 (Fed. Cir. 2001).)

The process steps defined in independent Claims 1, 17, 18, 19 and 22, including the step of introducing carbamoyl fluoride into a solvent heel, are clear when read in light of content of the application disclosure, teachings of the prior art and the interpretation that would be given by one possessing the ordinary level of skill in the art. Specifically, Applicants submit that one of ordinary skill in the art having read the disclosure, would readily understand what the legal boundaries of claims are.

Accordingly, Applicants submit that because one skilled in the art would be able to tell with a reasonable degree of certainty whether his or her conduct is within or outside the scope of these claims, the claims are neither vague nor indefinite. (See *In re Borkowski*.)

For at least these reasons, Applicants respectfully request reconsideration and withdrawal of the §112, second paragraph, rejection.

Claims 1-5, 10, 13-16 and 18 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Zanker (U.S. Patent No. 3,860,623). For at least the reasons that follow, withdrawal of the rejection is in order.

Independent Claim 1 defines a dehydrofluorination process to convert an aromatic carbamoyl fluoride to the corresponding isocyanate, the process comprising gradually introducing carbamoyl fluoride in a dissolved or finely dispersed state in a solvent into a solvent heel at a temperature of at least 80°C. (Emphasis added.)

Independent Claim 18 defines a dehydrofluorination process to convert an aromatic carbamoyl fluoride to the corresponding isocyanate, the process comprising subjecting carbamoyl fluoride to a temperature at least equal to 80°C, by gradually introducing the carbamoyl fluoride in a dissolved or finely dispersed state in a solvent

at a temperature of at least 80°C so that the total yield of isocyanate is at least about 70%. (Emphasis added.)

To establish a *prima facie* case of obviousness, the prior art reference (or references when combined) must teach or suggest all of the claim features. (See *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974).) In addition, "all words in a claim must be considered in judging the patentability of that claim against the prior art." (See *In re Wilson*, 424 F.2d 1382, 1385; 165 USPQ 494, 496 (CCPA 1970); and MPEP §2143.03.)

Zanker relates to a process for the production of isocyanates by reaction of carbamoyl halides with aliphatic olefins. See Zanker at Col. 1, lines 1-4. The process of Zanker, however, is very different from the processes defined in independent Claims 1 and 18. Considering for example, the disclosure at Col. 1, line 65, Zanker describes a reaction of carbamyl chloride or bromide with an olefin that traps HCl or HBr. Nowhere does Zanker disclose or suggest a process comprising "gradually introducing carbamoyl fluoride in a dissolved or finely dispersed state in a solvent into a solvent heel at a temperature of at least 80°C," as defined in Claim 1 or "gradually introducing the carbamoyl fluoride in a dissolved or finely dispersed state in a solvent at a temperature of at least 80°C so that the total yield of isocyanate is at least about 70%," as required by independent Claim 18.

Thus, Zanker cannot be relied on to establish a *prima facie* case of obviousness because Zanker fails to disclose or suggest the above features of independent Claims 1 and 18.

In addition, Applicants submit that a *prima facie* case of obviousness has not been established for at least the additional reason that "all words" in Claims 1 and 18

have not been considered in judging the patentability of the claims against the prior art. In particular, because Zanker neither discloses nor suggests a process which includes gradually adding carbamoyl fluoride in a dissolved or finely dispersed state in a solvent into a solvent heel at a temperature of at least 80°C so that the total yield is at least about 70%, Applicants submit that the Official Action has not given full consideration to all of the claim features. Patentable weight must be given to "gradually introducing;" "dissolved or finely dispersed state;" "at a temperature of at least 80°C;" and "total yield of isocyanate is at least about 70%;" in Claims 1 and 18 in judging the patentability of these claims over Zanker.

For at least these reasons, Claims 1 and 18 are patentable over Zanker. Because the remaining Claims 2-5, 10 and 13-16 all depend, directly or indirectly, from independent Claim 1, these claims are also patentable over Zanker for at least the reasons that Claim 1 is patentable thereover. Applicants respectfully request reconsideration and withdrawal of the rejection.

Claims 1-7 and 9-24 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Zanker in view of GB ' 898. For at least the reasons that follow, withdrawal of the rejection is in order.

The features of independent Claims 1 and 18 are recited above in Applicants' remarks concerning the 103(a) rejection over Zanker.

Independent Claim 17, defines a dehydrofluorination process to convert an aromatic carbamoyl fluoride to the corresponding isocyanate, the process comprising subjecting carbamoyl fluoride to a temperature at least equal to 80°C, by gradually introducing the carbamoyl fluoride in a dissolved or finely dispersed state in a solvent at a temperature of at least 80°C, wherein the carbamoyl fluoride is introduced into

the solvent with hydrofluoric acid in the form of a solution comprising anhydrous hydrofluoric acid. (Emphasis added.)

Independent claim 19 defines a dehydrofluorination process to convert an aromatic carbamoyl fluoride to the corresponding isocyanate, the process comprising gradually introducing carbamoyl fluoride in a dissolved or finely dispersed state in a solvent into a solvent heel at a temperature of at least 80°C and wherein during introduction of the carbamoyl fluoride the ratio of hydrofluoric acid to carbamoyl fluoride is at least equal to 2. (Emphasis added.)

Independent Claim 22 defines a dehydrofluorination process to convert an aromatic carbamoyl fluoride to the corresponding isocyanate, the process comprising gradually introducing carbamoyl fluoride in a dissolved or finely dispersed state in a solvent into a solvent heel at a temperature of at least 80°C and wherein the ratio of hydrofluoric acid, including free hydrofluoric acid and added hydrofluoric acid, to isocyanate groups, real or masked in carbamoyl fluoride form, is at most equal to 5. (Emphasis added.)

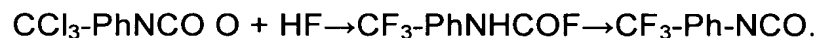
As explained above, to establish a *prima facie* case of obviousness, the prior art reference (or references when combined) must teach or suggest all of the claim features, and all words in a claim must be considered in judging the patentability of that claim against the prior art." (See *In re Royka*, Id.; *In re Wilson*, Id.; and MPEP §2143.03.)

As discussed above, Zanker fails to teach or suggest various features of independent Claims 1 and 18. Zanker also fails to disclose or suggest the same and/or additional features of independent Claims 17, 19 and 22. Specifically, Zanker fails to disclose or suggest gradual introduction of carbamoyl fluoride in a dissolved

or finely dispersed state at a temperature of at least 80°C (as recited in Claims 17, 19 and 22); introduction with hydrofluoric acid to form a solution comprising hydrofluoric acid (as recited in Claim 17); introduction of carbamoyl fluoride such that the ratio of hydrofluoric acid to carbamoyl fluoride is at least equal to 2 (as recited in Claim 19); and introduction wherein the ratio of hydrofluoric acid, including free hydrofluoric acid and added hydrofluoric acid, to isocyanate groups, real or masked in carbamoyl fluoride form, is at most equal to 5 (as recited in Claim 22).

GB '898 does not overcome the above deficiencies of Zanker. GB '898 relates to a process for the production of carbamic acid fluorides or isocyanates substituted by fluorine on aliphatic carbon atoms. (See GB '898 at page 1, lines 1-9).

Applicants submit that the processes of GB '898 are not relevant to the processes defined in the independent claims of the present application. For example, considering the process of Example 1, GB '898 discloses first preparing p-trichloromethylphenyl isocyanate by a reaction of p-trichloromethyl isocyanate and hydrofluoric acid. The reaction is generally represented by the following mechanism:



In the next step xylene is added to the obtained product and heated to 135°C. From the Example, it can be seen that the entire CF₃-Ph-NHCOF is in the added xylene. Thus, when the isocyanate is formed, it is in the presence of large amount of carbamic acid fluoride. As a result, side reactions occur and by-products are obtained. This is, of course, evident from the relatively low 35% yield of p-

trichloromethylphenyl isocyanate. Clearly, the low 35% yield demonstrates that the processes of GB '898 do not include the combination of steps defined in the independent claims of the present application. Specifically, GB '898, like Zanker fails to disclose or suggest gradual addition of carbamoyl fluoride in a dissolved or finely dispersed state in a solvent heel at a temperature of at least 80°C, (as specified in each of the independent claims) or the additional features of introduction of hydrofluoric acid (as recited in Claim 17); obtaining a yield of at least about 70% (as recited in Claim 18); introduction wherein the ratio of hydrofluoric acid to carbamoyl fluoride is at least equal to 2 (as recited in Claim 19); or introduction wherein the ratio of hydrofluoric acid to isocyanate groups is at most equal to 5 (as recited in Claim 22).

Accordingly, a *prima facie* case of obviousness over the combination of Zanker in view of GB '898 has not been established because the combination does not teach or suggest a dehydrofluorination process which includes the recited combination of features recited in independent Claims 1, 17, 18, 19 and 22.

Furthermore, the asserted combination of Zanker in view of GB '898 also does not reflect the proper consideration of "all words" in the claims. In particular, neither of the references, alone or in combination, disclose or suggest a process which includes gradual addition of carbamoyl fluoride in a dissolved or finely dispersed state to a solvent at a temperature of at least 80°C; introduction with hydrofluoric acid; obtaining an isocyanate yield of at least about 70%; introduction with a hydrofluoric acid carbamoyl fluoride ratio at least equal to 2; or a ratio of hydrofluoric acid to isocyanate group at most equal to 5. Thus, the Official Action has not given full consideration to all of the claim features. Patentable weight must

be given to "gradually introducing carbamoyl fluoride;" "in a dissolved or finely dispersed state;" "a temperature of at least 80°C;" "with hydrofluoric acid in the form of a solution comprising anhydrous hydrofluoric acid;" "so that the total yield of isocyanate is at least about 70%;" "the ratio of hydrofluoric acid to carbamoyl fluoride is at least equal to 2;" "the ratio of hydrofluoric acid, including free hydrofluoric acid and added hydrofluoric acid, to isocyanate groups, real or masked in carbamoyl fluoride form, is at most equal to 5;" in Claims 1, 17, 18, 19 and 22 in judging the patentability of these claims over the combination of Zanker in view of GB '898.

For at least these reasons, Claims 1, 17, 18, 19 and 22 are patentable over the combination of Zanker in view of GB '898. Because the remaining claims depend, directly or indirectly, from these independent claims, the remaining claims are also patentable over the asserted combination for at least the reasons that the independent claims are patentable. Reconsideration and withdrawal of the rejection are respectfully requested.

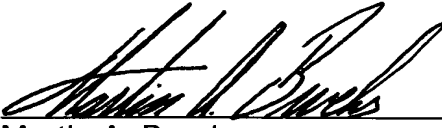
From the foregoing, Applicants earnestly solicit further and favorable action in the form of a Notice of Allowance.

If there are any questions concerning this paper or the application in general,
Applicants invite the Examiner to telephone the undersigned at the Examiner's
earliest convenience.

Respectfully submitted,

BUCHANAN INGERSOLL PC

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